

# Graphene coated textile fabrics for wearable electronics

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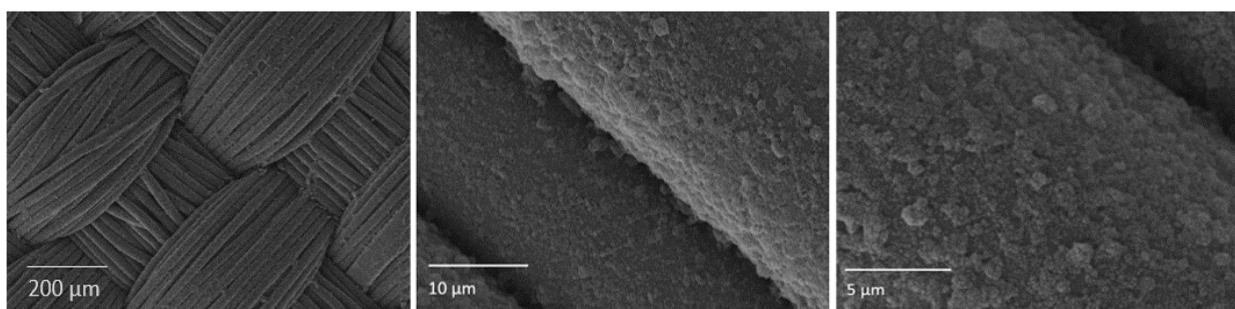
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The seamless incorporation of electronics in textile has the potential to enable various applications ranging from sensors for the internet of things to personalised medicine and human-machine interfacing. Graphene electronic textiles is a current focus for the research community due to the exceptional electrical and optical properties combined with the high flexibility of this material, which makes it the most effective strategy to achieve ultimate mechanical robustness of electronic devices for textile integrated electronics. An efficient way to create electronic textiles is to fabricate devices directly on the fabric. This can be done by coating the textile fabric with graphene to make it conductive[1][2]. Here we discuss successful and efficient methods for coating graphene on textile substrates of nylon, polyester and meta-aramid. The graphene coatings are characterized with scanning electron microscopy, Raman spectroscopy and electrical conductivity measurements in order to identify the optimal textile electrode. Our study provides the foundation for the large area fabrication of graphene electronic textiles.

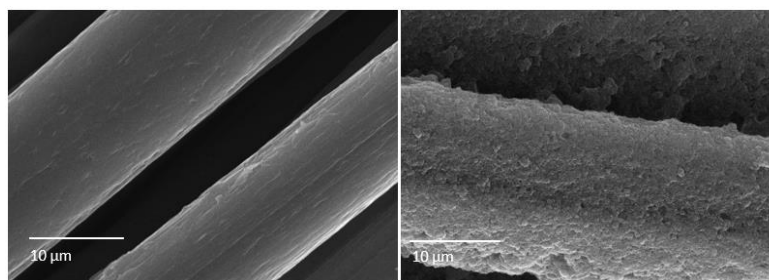
## References

- [1] Neves IS A, Rodrigues DP, De Sanctis A, Torres Alonso E, Pereira MS, Amaral VS, Melo LV, Russo S, de Schrijver I, Alves H. Scientific Reports, volume 7(2017), article no. 4250
- [2] Neves IS A, Bointon TH, Melo LV, Russo S, de Schrijver I, Craciun MF, Alves H. Scientific Reports, volume 5(2015), pages 9866-9866

## Figures



**Figure 1:** Scanning electron microscopy images of few layer graphene suspension coated on textile fabric of polyester under different magnifications.



**Figure 2 :** Scanning electron microscopy images of individual fibres of a fabric before (left) and after (right) coating with few layer graphene